

DETAILED ACTION

Response to Amendment

1. The amendments to the claims, in the submissions dated 2/9/10 and 2/22/10, are acknowledged and accepted.

Election/Restrictions

2. Claims 2 and 11 are allowable. The restriction requirement between Species I-VI, as set forth in the Office action mailed on 6/13/08, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claims 3, 6-8, 12, 14-16 and 37, directed to a non-elected species are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim. However, claims 9, 17-35 and 38-40, directed to a non-elected Species are withdrawn from consideration because they do not require all the limitations of an allowable claim.

In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian Kauffman on 4/7/10.

The application has been amended as follows:

Claims 4, 9, 17-36 and 38-40 are cancelled.

Claim 37, lines 2-5, replace

"wherein the other of the object optical system and the reference optical system has an angle modulator for modulating an angle of the other of the object beam and the reference beam for each of the holographic recording layers during the holographic recording."

with

--wherein at least one of the object optical system has an angle modulator for modulating an angle of the reference beam for each of the holographic recording layers during the holographic recording, and the reference optical system has an angle modulator for modulating an angle of the object beam for each of the holographic recording layers during the holographic recording.--

Reasons for Allowance

4. Claims 2, 3, 5-8, 11-16 and 37 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Claim 2 is allowable over the prior art of record for at least the reason that even though the prior art teaches: a multilayer holographic recording and reproducing method for holographically recording information on a multilayer holographic recording medium including a number of deposited holographic recording layers in each of which interference fringes can be formed by projecting an object beam and a reference beam that are split from a laser beam and for reproducing the recorded information by projecting a laser beam for reproduction, the method comprising: a process of recording the information by fixing a projection condition of the reference beam and modulating the object beam for each of the holographic recording layers so that the holographic recording layers each have a different Bragg's condition; and a process of projecting a laser beam for reproduction having the same projection condition as that of the reference beam is projected onto the deposited holographic recording layers so as to generate a diffraction beam in an upper holographic recording layer and to make a transmitted 0-th order diffraction beam be projected onto a lower holographic layer, the diffraction beams generated in the respective holographic recording layers emitted to different directions from each other at the same time by the projected beam and are detected by two-dimensional photodetectors a number of which is equal to that of the holographic recording layers, thereby simultaneously reproducing pieces of information from light-detecting signals of the two-dimensional photodetectors, the prior art fails to

teach or reasonably suggest that a single laser beam is used for reproduction and the diffraction beams generated in the respective holographic layers are emitted to different directions at the same time by the single beam in relation to the other limitations recited in claim 2. Claims 3 and 5-8 are dependent on claim 2 and are allowable for at least the same reasons claim 2 is allowable.

Claim 11 is allowable over the prior art of record for at least the reason that even though the prior art teaches: a multilayer holographic recording and reproducing apparatus for recording information on a multilayer holographic recording medium including a number of deposited holographic recording layers in each of which interference fringes can be formed by projecting an object beam and a reference beam from a laser beam source and for reproducing the recorded information by projecting a laser beam for reproduction, the apparatus comprising: an object optical system and a reference optical system for directing the object beam and the reference beam to the multilayer holographic recording medium, respectively; a reproducing laser optical system for projecting the laser beam for reproduction onto the deposited holographic recording layers; and two-dimensional photodetectors for reproducing pieces of information from diffraction beams generated in the respective holographic recording layers by the laser beam for reproduction, a number of the two-dimensional photodetectors being equal to that of the diffraction beams, wherein the reference optical system is configured to fix a projection condition of the reference beam, the object optical system includes an object beam modulator for modulating the object beam for each of the holographic recording layers to record information on each of the

holographic recording layers with a different Bragg's condition, the reproducing laser optical system is configured to make the laser beam for reproduction be projected onto the deposited holographic recording layers with the same projection condition as that of the reference beam so as to generate a diffraction beam in an upper holographic recording layer and to make a transmitted 0-th order diffraction beam be projected onto a lower holographic layer and to generate the diffraction beams in the respective holographic recording layers emitted to different directions from each other at the same time, and the two-dimensional photodetectors are configured to simultaneously detect diffraction beams generated in the respective holographic recording layers by the projected beams, the prior art fails to teach or reasonably suggest that a single laser beam is used for reproduction and the diffraction beams generated in the respective holographic layers are emitted to different directions at the same time by the single beam in relation to the other limitations recited in claim 1. Claims 12-16 and 37 are dependent on claim 11 and are allowable for at least the same reasons claim 11 is allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE R. CALLAWAY whose telephone number is

(571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC
/JADE R. CALLAWAY/
Examiner, Art Unit 2872

/Stephone B. Allen/
Supervisory Patent Examiner
Art Unit 2872